

Abstract of the Disclosure

The present invention relates to a device for detecting a position and an orientation of an insertion portion of a medical insertion tool which is inserted inside a body cavity, from the outside, and a detecting method therefor. An object of the present invention can achieve a downsized and lightweight insertion portion so as to be smoothly and easily insertable into even a narrow body cavity such as a blood vessel inside a skull, without having a bad influence on a vital tissue. Moreover, another object thereof is to make it possible to detect the three-dimensional position and orientation of the insertion tool very accurately while minimizing a noise. According to the present invention, a permanent magnet or a ferromagnetic body 4 is attached to an insertion portion 2 of a catheter 1 as an example of the medical insertion tool, which is inserted into the body cavity. On the other hand, outside the body cavity, at least three triaxial MI sensors 5 having triaxial directivity to the magnetic field generated from the permanent magnet or the ferromagnetic body 4 are equally spaced around a scope to be detected. The magnetic field measurement signal processing circuit 6 is connected to the triaxial MI sensors 5.